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ABSTRACT

Discussion of eight major works relevant to a linguistic description of Puerto Rican English seeks to contribute to a more unified theory of bilingualism and second language acquisition. The author's observations on phonological, lexical and morphological, and syntactic implications are presented in an attempt to coordinate the theory. The works, including a general analysis of each, are: (1) "Bilingualism in the Barrio," (2) "The Development of Phonemic Analysis for an Oral English Proficiency Test for Spanish-Speaking School Beginners" (Oral English Language Proficiency Test 1), (3) "A Phonological Study of English as Spoken by Puerto Ricans Contrasted with Puerto Rican Spanish and American English," (4) "The Puerto Rican Study, 1953-1957: A Report on the Education and Adjustment of Puerto Rican Pupils in the Public Schools of the City of New York," (5) "Puerto Rican English Phonotactics," (6) "The Grammatical Structures of English and Spanish," (7) "The Sounds of English and Spanish," and (8) "Spanish Phonology." A summary of general methodological and theoretical points is included. (RL)

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PUERTO RICAN ENGLISH:
A Discussion of Eight Major Works Relevant to its Linguistic Description

by
George M. Williams, Jr.

1.0 The study of Puerto Rican English, like the study of bilingualism, second language learning, and language contact in general, is still hampered by the lack of a theory sufficiently articulated and validated to make a large number of interesting and correct predictions (especially in matters of detail); one of the reasons for this state of affairs is the paucity of data substantial enough to be accepted without question. The scantiness of such data is due not only to the relative recentness of theoretical concentration on the (to a great extent political) problems of bilingualism, but also to the lack of uniformity in the aims, methods, presuppositions and standards of those investigations which have been carried out. In order to render this lack of uniformity comprehensible, I will first treat the purposes for which the works to be surveyed were undertaken, their general theoretical orientation, and the scrupulousness with which they handle their data. Then the results obtained by the various researchers will be presented and analyzed under the headings Phonology, Lexicon and Morphology, and Syntax.* Throughout each of these three

* At the end of the section on phonology, sociolinguistic aspects of Puerto Rican English (and Spanish) will also be discussed.

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sections I will summarize the questions which the studies leave either unresolved or unasked. Particular emphasis will be given to those issues whose clarification or resolution would contribute most to a theory of bilingualism and second language acquisition.

2.0 NON-DATA-SPECIFIC ORIENTATION OF THE STUDIES

This aspect of the works to be surveyed deserves separate consideration because the kinds of remarks that can be made about it are on a completely different level than the kinds that have to do with the establishment of detailed and precise distinctions among the subgroups of the populations to be investigated. The general weaknesses and strengths found on this more abstract level are all pervasive and are difficult to modify without completely changing the direction of the research, whereas the questions of detail have more limited consequences (although these consequences can still be crucial) and require tinkering more than complete conceptual reorientation.

2.1 Joshua Fishman, et al. Bilingualism in the Barrio. Final Report, Contract N. OEC-1-7-062817-0297, United States Department of Health, Education and Welfare, Office of Education, Bureau of Research, August, 1968, 2 Vols.*

Fishman and his associates thoroughly studied many aspects of both Puerto Rican Spanish and Puerto Rican English phonology. The methods employed derive largely from Labov's work on variable rules, and the authors admit their indebtedness. This means that their research is limited principally to the social or sociological correlates of the allophonic variation exhibitied by single phonemes in a variety of interview conditions. In most cases it is impossible to determine whether the phonemes were defined generatively or taxonomically, but the treatment accorded nasals suggests to me that, despite some generative trappings, the phonemes were identi-

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*The et al are: Robert L. Cooper, Roxana Ma, Gerard Hoffman, Heriberto Casiana, Charles Terry, Lawrence Greenfield, Martin Edelman, Tomi Berney, J. Findling, Judah Ronch, Barbara Fowles, Abraham Givner, James Kimple, Jr., Stuart Silverman, Sheldon Fertig, and Eleanor Herasimchuk. Ma and Herasimchuk did most of the real linguistic work, which is reported in their article "The Linguistic Dimensions of a Bilingual Neighborhood", vol.2, pp. 636-835. Fishman and Herasimchuk collaborated on the other more-or-less straight linguistic article, "The Multiple Prediction of Phonological Variables in a Bilingual Speech Community", vol. 2, pp836-858.

fied by relying on either taxonomic analyses or orthography. The phonological investigations were carried out not so much for their own interest but rather as part of a large-scale effort to determine the accuracy and consistency of language censuses and psychological tests and to establish domains of usage for English and Spanish in the Jersey City neighborhood under study. That is, information gathered by linguists was used to check whether self-report measures of language usage actually correlate with actual speech production, and whether the groups defined sociolinguistically on the basis of their phonological production correlated with the groups defined demographically, by psychological tests, and intuitively. For this reason, isolated factors perceived as relevant were analyzed sociolinguistically and checked for their intercorrelation with other kinds of data, but little attention was paid to the total structure of an individual's speech. The closest that Fishman comes to this endeavor is his interesting demonstration that if an individual's membership in various demographic categories is known, it is

possible to predict a large amount of the socially conditioned linguistic variation in his speech.

The kinds of general concerns mentioned above were chosen by Fishman as the ones which should govern his investigations most probably because of his immersion in the methodological disputes generated within the theory of societal bilingualism. It is clear that they are suitable for the clarification of some of those disputes. A further consequence of the choice of s o c i e t a l, rather than i n d i v i d u a l, bilingualism as the focus of inquiry was the necessity for statistical precision. The size of the sample population and the large number of disparate variables involved made any other approach unthinkable. Because of this, and because Fishman had the resources to undertake a computer analysis of the data, the numbers which appear throughout Bilingualism in the Barrio are the only ones in the field whose significance is known.

2.2 Gloria R. Jameson: The Development of a Phonemic Analysis for an Oral English Proficiency Test for Spanish-Speaking School Beginners (Oral English Language Proficiency Test 1). The San Antonio, Texas, Language Research Project. The University of Texas, 1967 (also accepted as a PhD. dissertation under Archibald Hill).

In her dissertation Jameson reports the results of a series of tests designed to help relatively untrained teachers

diagnose the phonological difficulties that five- and six-year-old native speakers of Mexican-American Spanish have with standard English. The design of the tests is not entirely hers, since she had to take over part of a project begun by Elizabeth Haynes Ott*, who herself continued the portion of the project later published as A Study of Levels of Fluency in Oral English of Spanish-Speaking School Beginners (Oral English Language Proficiency Test 2, 1967). The scope of Jameson's work is not as broad as its title might suggest; it concerns itself only with the ability of the subjects to reproduce the standard allophonic variants of several taxonomically identified English vowel and consonant phonemes believed to cause trouble for speakers of Spanish**; four consonant clusters were also investigated. Jameson had too little time to eliminate the inadequacies in the formulation (not all words were familiar to very young children--not even to the Anglo control group), and

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*She is now director of SWEDL's Language Bilingual Education Program (sic).

**It all depends on how one wants to count them, but roughly 7 vowels and 20 consonants were tested.

scoring of the tests (2 answers plus a catch-all box; difficulties experienced by Anglo teachers in hearing subtle Spanish allophones*; uncertainty about the acceptability of Spanish responses). In addition, no attempt was made either to assess the statistical significance of the variation in the results, except to check the teachers' accuracy in scoring, or to establish a correlation between performance on the tests and accentedness of natural speech. Some gross patterns do emerge, however, from the data Jameson provides; these will be discussed in sections 3.1.1.1.2 ff.

Jameson's entire apparatus is based on Archibald Hill's brand of taxonomic linguistics and its expression in an unpublished test with tape which bears the name "Proficiency Examination, No. X-1". Furthermore, Jameson claims to believe with Hill that if a child can perceive a phonological distinction, he can produce the sounds which differ only in terms of this distinction; although at the end of her report she points out that this may be false. Unlike the belief in taxonomic linguistics, this theoretical assumption seems to me to have had no practical consequences in the for-

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* The interrelation of the scores (and the analyses they imply) given by different scorers was, however, fairly high (c. 85%).

mulation or administration of the test, although it would have had if a correlation of the test results with normal speech had been attempted.

Besides reporting the results of her own test, Jameson surveys other tests in the field* and includes a copy of the Brengelman Linguistic Capacity Test, which was designed to test vocabulary, grammar, and the aural discrimination of English sounds by young native speakers of Spanish. Jameson asserts that the Brengelman test of grammar is not suitable for children and points out that the wide regional variation in the scores on the Brengelman Index probably indicates that a fair degree of training is necessary for its proper administration (pp. 17-18). It is also clear that the Index does not measure the oral discrimination of English sounds.

2.3 Morgan Emory Jones: A Phonological Study of English as Spoken by Puerto Ricans Contrasted with Puerto Rican Spanish and American English. University of Michigan PhD. dissertation, 1962.

The title of this study is somewhat misleading: by "English as spoken by Puerto Ricans" Jones means the English spoken by a certain group of Puerto Rican islanders . The Mainland

*Fairbanks Articulation Test for Non-Readers; the Peabody Picture Vocabulary Test; the Wepman Auditory Discrimination Test; the Murphy-Durrell Diagnostic Reading Readiness Test; Phonemes Test, I & II; the McDonald Deep Test of Articulation; the Illinois Test of Psycholinguistic Abilities; the Brengelman Linguistic Capacity Index.

Puerto Rican (more or less New York) dialect is asserted to be different and is excluded from full consideration, although Jones does make some schematic comparisons. Two general methodological problems characterize Jones' work: A. the use of taxonomic phonemics, and B. the definition of Island Puerto Rican English (which I shall use as a name from now on in contrast to Mainland Puerto Rican English). The second problem is really two: it has an individual and a "social" variant.

A. Jones' brand of taxonomic linguistics leads him to count a phoneme as having been acquired if (1) in a given environment a speaker distinguishes two sounds that are roughly like two English sounds; (2) Spanish does not distinguish the two sounds in the given environment; (3) the environment is equal to any subpart of the English environment in which English makes the distinction (e.g., word final position); and (4) the words which result are recognizably English (i.e., lexical niceties are observed). This very restricted definition of what it means to acquire a phoneme must be kept in mind when Jones' data on a possible hierarchy of phoneme acquisition are discussed in Sections 3.1.1.1.1 and 2.1.1.1.2.

B. The social variant of the problem of defining Island Puerto Rican English is as follows: almost no speaker of the

dialect (which Jones initially defines sociologically, rather than linguistically) has the same phonemic inventory, even given Jones' not very stringent conditions on acquisition. To get around this difficulty, Jones takes four phonemes that almost all speakers have (/θ/, /ŋ/, /ɛ/, /ɔ/), adds these to the basic inventory of Puerto Rican Spanish phonemes, and considers the result to be the inventory of Island Puerto Rican English. He does not, on the other hand, want to deny that speakers who have more than these four English phonemes also speak Island Puerto Rican English. It would probably have been more reasonable for Jones to have retained a purely sociological definition and simply noted that the dialect so defined is distinct from certain other linguistically or sociologically defined dialects and manifests an extreme degree of fluidity, within which certain limited patterns can be perceived (e.g., four phonemes common to almost all versions of the dialect. Another way of attacking the problem might be to describe more coherently the <u>environments</u> in which phoneme acquisition does and do does not take place and to note which Spanish phonetic residues are most persistent; perhaps this slightly negative orientation would better define the nature of the dialect.

The individual variant of the "Island Puerto Rican English identification problem" lies in the extreme amount of apparently free alophonic variation which marks the production of even those English phonemes which count as "acquired". Here Jones opts for an intuitive judgment of whether something is more-or-less English, relying on a feeling for what are the most crucial features in a distinction between an English and a Spanish phoneme. The features he chooses are obvious and reasonable: eg. [Continuant], [Obstruent]. The acquisition of such gross features in the proper segments is what counts in Jones' analysis; non-native use of "finer" features is criterial only for degree of accent and not for phoneme acquisition.

2.4 Mercedes de los Angeles Saez: Puerto Rican English Phonotactics. University of Texas, PhD. Dissertation, 1962.

Saez claims to have investigated Spanish interference in the phonology of the English spoken by school children in Puerto Rico, but except for a small amount of data in the appendix and a few scattered remarks about allophones in her own dialect of Puerto Rican Spanish, she merely summarizes the work of various linguists who have described English and Spanish. The new data about Puerto Rican English which she offers in the appendix offers nothing but meager phoneme-by-phoneme pro f that under testing conditions Puerto Ricans

learning English make all the Spanish-influenced mistakes that a contrastive analysis would lead one to expect. No attempt is made to differentiate the various mistakes according to seriousness, etc.

2.5 J. Cayce Morrison: The Puerto Rican Study, 1953-1957. A Report on the Education and Adjustment of Puerto Rican Pupils in the Public Schools of the City of New York, New York: Board of Education , 1958.

This report sketches the progress of an effort to improve the education received by Puerto Ricans in New York City. In the section of the report concerned with language difficulties, Morrison describes the development and implementation of English language proficiency tests, new curriculum-oriented language aids, and a new mix of teaching methods.The only results reported have to do with tests on teaching effectiveness; these will be reported in section 3.2.2. Although the integration of the language materials into a specially prepared version of the standard NYC curriculum was commendable, it will somewhat restrict any use we might be able to make of it.*

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* A sidelight: in the language manuals, the teachers were told how to pronounce some Spanish words, but the pronunciation given was Castilian!

2.6 Robert P. Stockwell, J. Donald Bowen, and John W. Martin: The Grammatical Structures of English and Spanish. Chicago, University of Chicago Press, 1965.

The Sounds of English and Spanish. Chicago, University of Chicago Press, 1965.

James W. Harris: Spanish Phonology. Research Monograph No. 54. Cambridge, Mass. MIT Press, 1969.

These books are listed here not because they deal directly with the problems Puerto Ricans have in learning English, but because they allow some further discussion of the general theoretical problems involved in any study of Puerto Rican English. In their books, Stockwell, Bowen and Martin discuss many of the differences between English and Spanish and suggest a provisional hierarchy of difficulty which is to be considered when teaching one of the languages to a native speaker of the other. The problems are very diffuse in the area of syntax, but they are somewhat less so in the area of phonology; what Stockwell, et al, propose as a plausible hierarchy of phonological problems should therefore be examined with some care. The details of their proposal will be presented later (section 3.1.1.1.5), but it should be noted now that it relies on taxonomic phonemics. The effects such reliance has on a study of phonological interference are as follows:

(1) because of possible differences between what a taxonomic phonemic and a generative phonological analysis

isolate as phonemes of the languages to be contrasted, different predictions about the ease of learning particular sounds will be made. This is given the assumption that phoneme correspondences between languages, or their absence, affect learning. An example of this kind of potential difference may be found by comparing a generative analysis of the sound [ŋ] in Spanish (Harris) and English (Chomsky and Halle) with a taxonomic analysis of the same facts (Stockwell, Bowen, and Martin). The generative analysis, which derives [ŋ] from /n/ before /g/, would lead one to guess (a) that because of the great similarities governing the appearance of [ŋ] in Spanish and English, it should not be difficult for Puerto Ricans to keep [ŋ] distinct from other nasals in some environments, but (b) that the greater generality of certain Spanish assimilation rules would probably lead to the absence of [ŋ] in certain English consonant clusters, etc. The taxonomic analysis claims that [ŋ] is a phoneme in English but not in Spanish, with the result that the random appearance of a new distinction must be learned. Each analysis suggests a different learning strategy, a different degree of ease in learning, and, perhaps, a slightly different teaching strategy.

(2) The rather undeveloped study of quasi-rules in taxonomic phonemics concentrates the attention of investigators

solely on whether or not segment A is pronounced with an interference variant and whether the phoneme inventories of the languages to be contrasted are identical. As a result, the role of rule formulation (complexity, generality and rule interaction (ordering, analogy) has received minimal theoretical attention and virtually no practical attention*.

(3) Concepts such as system symmetry and redundancy, whether taxonomic or generative in formulation, have experienced only anecdotal treatment with respect to interference and the generative concept of linking rules has apparently never been employed in a study of language contact.

2.7 SUMMARY OF GENERAL METHODOLOGICAL AND THEORETICAL POINTS

(a) The use of taxonomic phonemics as a guide leads to the kinds of neglect mentioned in 2.6 above and contributes to the difficulties Jones had in defining acquisition (pp. 8-11).

(b) With the exception of Fishman, the investigators

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*Jones discusses some morphophonemic alternations. Fishman discusses rules governing /r/, word-final /n/ and /s/. But the Spanish rules which raise low vowels, the English and Spanish velar softening rules, and the various deletion and insertion rules have not been looked at. They may be of crucial importance, of minor interest, or of no interest at all -- one can only guess.

paid little attention to the statistical significance of their results.

(c) All the investigations had different aims. No one has deliberately set out to test the implicit and explicit hypotheses of previous investigations.

(d) To what extent the populations studied are comparable is unclear. In addition, there may be significant differences between the New York and Boston Puerto Rican communities since the one in Boston is smaller and therefore less self-contained.

(e) Of the serious investigations, one studied large groups (a whole community; Fishman); one studied smaller collections of individuals having roughly the same age (Jameson); one studied a linguistic continuum associated with a small number of individuals sought out on the basis of sociological criteria and the apparent ability to speak English (Jones); and one searched for ways of helping Puerto Ricans adjust quickly to New York. But no one has tried to describe and explain the step-by-step development of an English grammar on the part of one or more Puerto Rican children. With the exception of some fragments in Fishman, no data about generalizations of the form "If a person A has X in his dialect, he also has, or does not have, Y".

(see Fasold, "Two Models of Socially Significant Linguistic Variation", Language 46 (1970) 551-63). In the absence of both developmental and implicational analyses of the speech of individuals it is impossible to answer the following questions:

1) Is there a natural or preferred path to the acquisition of English given Spanish as the native language?

2) How does the incomplete state of a 5, 6, or 7-year old child's command predictions made on the basis of a contrastive analysis of adult English and Spanish?

3) Do generalizations which have no exact analogue in either Spanish or English appear in the English of native speakers of Spanish?

4) How do social differences in exposure to English affect the construction of a provisional English grammar?

5) What degree of exposure generally suffices for the acquisition of various rules and phonemes?

(f) In conclusion, it should be noted that the political situation has greatly changed since the writing of the studies surveyed above. The immediate and long-term effects of Puerto Rican nationalism on attitudes toward English and on the survival of Spanish in Mainland Puerto Rican communities are completely unknown.

3.0 THE LINGUISTIC RESULTS OF THE VARIOUS INVESTIGATIONS

3.1 PHONOLOGY

The data available on the phonology of Puerto Rican English (and Spanish, in Fishman's study) fall into two categories: (1) information concerning what in English is difficult for a native speaker of Spanish to learn; (2) preliminary clues (all provided by Fishman) about sociolinguistic variation within the Puerto Rican community. Although both categories involve the relationship between Puerto Ricans and a dominant, alien culture, the first category is closer to the way an outsider probably looks at the Puerto Rican community, and the second is the sort of thing one has to know to live within any community.

3.1.1 WHAT IS HARD TO LEARN

First problems involving the segmental phonology of English and Spanish will be discussed; then stress and intonation will be considered.

3.1.1.1 HIERARCHIES OF DIFFICULTY IN SEGMENTAL PHONOLOGY

In what follows I will attempt to organize efficiently the available information on the relative difficulty of various English phonemes for native speakers of Spanish. I will begin with a hypothesis implied in Jones' dissertation -- which is worth mentioning only because it has no competitors -- and then show what parts of the hypothesis the data in Fishman and Jameson do and do not support.

3.1.1.1.1 JONES' HYPOTHESIS

Table 24 (p. 193) of Jones' dissertation gives the following figures:

Phonemes Added*	No. and Percentage of individuals adding the Respective Phonemes	
/θ/	23	85%
/ŋ/	21	78%
/ɛ/,/ɔ/	19	70%
/ae/	12	44%
/v/	11	41%
/ə//ɔ**/	7	26%
/I/,/U/	6	22%
/z/	3	11%
/ž/	2	7%

* Notice that the first four phonemes (/θ/,/ŋ/,/ɛ/,/ɔ/) which Jones chose as the basic non-Spanish inventory of Island Puerto Rican English (see section 2.3) are in fact rather clearly separated from the other phonemes acquired by the various informants.

** Stressed /ə/, as in but. This is how Jones uses schwa.

Assuming that the more difficult phonemes of a second language are acquired by fewer people learning that language (particularly after puberty, as was the case with all of Jones' informants), then Table 24 may be interpreted as an ordering of phonemes according to their (increasing order of) difficulty (relative to the native language, Spanish), and not just as a statement of the wide variation exhibited by the sort of Puerto Rican English Jones investigated.

3.1.1.1.2 THE VOWELS IN TABLE 24.

Concerning the vowels /ɛ/, /ɔ/, /ə/, /ae/, /I/, /U/ the following is known.* Fishman writes: "Thus for Puerto Rican speakers who use [ʌ] or [ae]** in English, it is highly probable that they speak an overall colloquial style of English which functions in a variety of social situations and in general have a more restricted usage of conversational Spanish [i.e., their knowledge of Spanish is limited, and is restricted to a small number of informal social situations. G.W.]" (p. 762). In other words, two of the vowels which are not among the four phonemes which were apparently easy for Jones' informants to learn have fairly good predictive power with respect to the naturalness or colloquialness of Puerto Rican English. This is exactly what one would

* NB: where Jones uses /ə/, Fishman writes /ʌ/.
** [a] is the expected interference variant for /ə/, and [ɛ] for /ae/.

expect if these two vowels were difficult to learn, since it means that a greater mastery of English has something to do with how well one speaks it -- something that hopefully is true. Jameson's data support the hypothesis that /ae/ is more difficult than /ɛ/ (which also is what contrastive analysis predicts, since Spanish /e/ in closed syllables is similar to /ɛ/, whereas /ae/ does not exist in Spanish). Her data do not, however, show as gross a difference in learnability between /ɛ/ and /ae/ as Jones' table suggests; in fact, it seems that in general "vowels gave much less difficulty than expected among the preliterate Spanish-speaking pupils tested." Jameson's data show further that /θ/ is much more difficult for the children she studied than are any of the vowels she considered; Jones' table claims the opposite. It would be interesting to know whether there is any evidence besides this remark of Jameson's for the relative ease children, as opposed to adolescents and adults, have in learning the vowels of a second language. Jameson's results for /U/ are mixed: tense [ū] = [uw] is substituted for [U] in some words but not in others. /U/ gives the appearance of being a few percentage points more difficult to learn than /ae/, but whether this very slight difference is statistically significant is unclear. The correct use of /I/ also varies from word to word, according to Jameson. /I/ does not seem to be quite as difficult as

/U/ for the children she tested to master, but the great variation in the results makes any such generalization uncertain. /I/ and tense /Ī = iy/ are confused in both directions: i.e. [I] is substituted for [iy] and vice versa; if both /I/ and /iy/ would lead to plausible word and sentence, the confusion is greatest (almost random). Some of Jameson's data show /I/ to be slightly more difficult than /ae/; some show the opposite.

3.1.1.1.3 THE CONSONANTS IN TABLE 24.

As was noted earlier, Jameson's data do not corroborate Jones' claim (that of course does not mean that Jones is necessarily wrong) that /θ/ is easy for speakers of Spanish to learn. In fact, the children she studied produce [s] very often.* It must be kept in mind, however, that, in accordance with Jones' criteria for phoneme acquisition, his informants often distinguished /θ/ from other phonemes in only a few of the English environments, such as word-final position (Jones, p. 204).

For /ŋ/ it is impossible to tell whether Jameson's data directly bear on Jones' claim, again partially be-

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*Jones says that the Island Puerto Rican /θ/ is linguadental, rather than linguainterdental, thus making it very similar to Puerto Rican Spanish /s/.

cause it remains unclear to what extent Jones' informants actually acquired /n/ in the correct environments.*
Jameson tested only one aspect of the /n/-problem, which is, however, a basic one: whether Spanish-speakers have trouble unlearning the assimilation of the point of articulation of nasals to that of the immediately following consonant (this being the only source of [n] in Spanish). Many children (5% - 45% in Jameson's study) pronounced [haendz](hands) for [haenz](hangs), assimilating the nasal to the dental articulation of /z/ and then inserting a dental stop.

The difficulty of /v/ for Spanish-speakers is also not easily determinable from Jameson's data. She shows that [v] is <u>not</u> substituted very often for [b] inter-vocalically, contrary to predictions made on the basis of Spanish morphophonemic rules which do call for such a substitution (in Spanish). Whether or not [b] appears for English /v/ after a pause does not become clear. Producing an English-sounding voiced labial fricative in such an environment seems to cause an extreme amount of trouble, but the validity of the data is questionable, since Jameson considers it highly probable that the test word <u>vote</u> was almost totally unknown to the Spanish-American children. Even the Anglo pupils said <u>boat</u> a

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* One problem involving /n/ is the borrowing into English of the Puerto Rican English alternation between [n] and [n] word-finally.

large percentage of the time. It is , however, to be expected that [b] will show up word initially for English /v/ in a large number of cases. /v/ is also extremely difficult to pronounce in a word-final cluster before /s/, both because it is a cluster and because regressive devoicing on the Spanish model occurs.

/ð/ is also not easy for Jameson's subjects - if it follows a tense vowel (bathing was pronounced as babying). This is contrary to all expectations based on a contrastive analysis of English and Spanish. Perhaps bathing was a poor word to test. On the other hand - again somewhat contrary to expectation - there was almost no substitution of [ð] for /d/ in intervocalic position. This is explained by noting that both intervocalic /d/ and /t/ become flaps in English. Since the Mexican-American Spanish /r/ is also a flap (as is one variant of the Puerto Rican Spanish /r/), the children substituted it instead of [ð] and got away with it.* This follows from the obvious assumption that second-language learners do not apply the rules of their native language to the underlying phonological representations of the second language, but rather to the

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* Jameson, p. 82.

phonetic representations -- at least when they first encounter the second language. Because of the substitution of flaps and the possibility that testing bathing led to unrepresentative results, Jameson's data do not help in interpreting Jones' table.

Pronouncing [z] intervocalically or word-finally, where Spanish has only [s]*, seems on the basis of Jameson's data to cause severe problems for young Spanish-speaking children. This provides some justification for the low position of /z/ in table 24.

3.1.1.1.4 PHONEMES NOT LISTED IN JONES' TABLE

Some of the phonemes not listed in Jones' table have been dealt with to some extent by Jameson. These all happen to be consonants. Jameson's data reveal that Mexican-American children taking tests like hers have their greatest problems with learning how to produce these consonants word-finally either singly or in clusters. Nine examples follow:

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* [z] appears in Spanish only as an allophone of /s/ before a voiced consonant; its appearance in even that environment is optional in some dialects (like Mexican-American Spanish).

1) word-final /t/ occurs only rarely in Spanish; word-final /d/ becomes devoiced [d̥] and extremely lenis; as a result, neither word-final [t] nor [d] sound familiar to young Spanish-speakers, and they have a lot of trouble distinguishing ride from write, hit from hid.(pp. 82-85)

2) /-rk/ does not occur word-finally in Spanish; about 1/4 of the children studied simplified the cluster to [-r]. New York was pronounced New Yor' (pp. 87-88).

3) /k/ and /g/ are also very rare word-finally in Spanish. Because of this, pick and pig were confused by Jameson's subjects (pp. 90-91), although not to the degree that ride, and write were.

4) /-pt/ is not permissible word-finally in Spanish; it was simplified to [-p] about 50% of the time (pp. 120-121).

5) /-p/ is found only seldom word-finally in Spanish; 1/4 and more of the children pronounced cap as [kae] (p. 73).

6) final /-sp/ is non-occurrent in Spanish; 50% and more of the children pronounced wasp as [was] or [wɑ̄] (p. 124).

7) strangely enough, [lar] was seldom pronounced instead of [larɣ] (large).

8) word-final /-sk/ causes as much, or even more difficulty than /-sp/. [dɛs] and[dɛks] occur for desk (p. 125).

9) /-rvd/ - as in curved - was also simplified by the children: to [-r] or [-rv].

Spanish-induced cluster simplification means that Spanish-accented English will have some similarity to Black English

even if there has been no contact between the two.

Other consonantal interference phenomena studied by Jameson are the following:

1) The sentence "There's a tag on the rug." was tested (see pp. 92-3). A number of children responded with tack instead of tag. "It remains an open question as to whether instances in which teachers heard the correct tag on do not cover instances of [g]*. On the other hand,it can be assumed the 'don't know' recordings do indeed represent [g]. (p. 92) "Don't Know"= approx. 15%. This is just another facet of a general problem which has been discussed several times already in connection with /v/, /ð/, /z/, /b/, /d/, /t/, and /r/, namely: in medial position Spanish distinguishes (phonetically) between lenis voiceless stops (p, t, k), lenis voiced fricatives (β, ð, ɣ), and voiceless spirants (f, s); the voiced fricatives are derived by synchronic rule from voiced stops (b, d, g). English, however, distinguishes medially between voiced and voiceless stops (except d and t, which become flaps) and voiced and voiceless fricatives (θ, ð, v, f, s, z); in addition, English has no /ɣ/ and its stops (both voiced and voiceless)are more fortis than their Spanish counterparts. The problems for a native speaker of Spanish are gigantic.

* I.e., the voiced velar fricative.

2) The substitution of [ɣ̞] for /ɣ̞/. This occurs because [ɣ̞] is a common allophone of /ɣ̞/ in rapid colloquial Spanish.

3) /eC/ for /C/ word-initially (eschool for school). Jameson's test item was poorly formulated, but: "This substitution appears to be much more common among adults, and those literate in both languages, than among the pre-literate." (p. 117)

4) [Vs + mV]for [V+smV], i.e. improper syllable division. This was not a common mistake among the children tested.

5) [ʝ̞] for /y/, a substitution to be expected on the part of speakers of many different Spanish dialects. Jameson's test indicates only moderate difficulty, but the dialect the children spoke has this allophone of /y/ much less frequently than some dialects of Puerto Rican Spanish.

3.1.1.1.5 HIERARCHIES OF PHONOLOGICAL DIFFICULTY

Stockwell, Bowen and Martin propose* an a priori hierarchy of phonological difficulty which they intend to have universal applicability in cases of second-language learning. In order to present their proposal understandably it is first necessary to point out a terminological peculiarity:

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*The Sounds of English and Spanish, p.16.

> In this method of comparison of sound systems, "optional choice" refers to the possible selection among phonemes. For example, the English speaker may begin a word with /p/ or /b/. "Obligatory choice" refers, for one thing, to the selection of conditioned allophones .... Also, "obligatory choice" refers to limitations in distribution (sic) of phonemes. (p. 10)

Given this terminological distinction, the following list shows first language/second language pairs in decreasing order of difficulty:

First L	Second L
ø	Ob
ø	Op
Op	Ob
Ob	Op
Ob	ø
Op	ø
Op	Op
Ob	Ob

It should be noted that Stockwell, et al. intend the Ob/Op pair to cover only the case in which there is complete identity of the sets of allophones involved in a given environment. It is not clear how difficult they would consider the situation in which one set of allophones was a proper sub-

set of the other, or in which each of the two sets of allophones had several members not present in the other. This points up a general difficulty with the Stockwell/ Bowen/Martin proposal and any other proposals like it: because of the concern with phonemes rather than with phonemes plus rules, the interconnections among the various allophones and phonemes are not revealed, and their effect on learning difficulty remains unknown. Expressed in another way: lists of L_1/L_2 pairs make sense only environment by environment, and sometimes the environments may even have to be stated in an unenlightening way, in order to avoid the subset and overlapping problems mentioned above. The environment-by-environment approach is limited by its nature to minor generalizations or to no generalizations at all.

A further example of the need to interpret the Stockwell/Bowen/Martin proposal further can be found in the case of the flap allophones of /t/ and /d/ in English. During the discussion of Jameson's data it was pointed out that the flap caused little difficulty for the Mexican-American children who were tested, because they substituted another phoneme, Spanish /r/, instead of the normal Spanish intervocalic allophones of /t/ and /d/. The excessive concern

with phonemic inventory which is characteristic of The Sounds of English and Spanish would suggest, however, that the English flaps should be of the highest order of difficulty for the Spanish speaker (ø flap allophones of /t, d/ in Spanish; Ob in English)*

Some other predictions made by the Stockwell/Bowen/Martin chart also receive little confirmation: English /ae/ should be among the most difficult sounds, of the same difficulty as /θ/ and more difficult than the non-allophonic relation between [d] and [ð] intervocalically. None of these predictions seems to be confirmed by the data of either Jameson or Jones**. This lack of confirmation may be due to the environment-by-environment approach; it could also result from the lack of consideration given to the inherent differences in difficulty among the various possible combinations of distinctive features. Of course, Jameson and Jones might have gathered misleading data. In order to decide, it will eventually be necessary to subject the Stockwell/Bowen/Martin proposal to a test, which should also check the validity of the above criticisms of the proposal.

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*This could be closer to the truth for Spanish speakers who are already literate and who are thus susceptible to orthographic suggestion.

** About /θ/, remember that Jones claims it is very easy to learn, while Jameson claims it is very difficult.

3.1.1.1.6 OPEN QUESTIONS CONCERNING SEGMENTAL PHONOLOGY

In order to check and supplement the data surveyed above, an inventory of the interference variants and some indication of their frequency in the English spoken by Puerto Rican school children in a number of localities would be desirable. Beyond that, the conflicting indications concerning the ease of learning the various English phonemes should be reason enough to investigate the entire matter of hierarchies of difficulty, learning sequences, the effects of teaching, etc. The theoretical and methodological inadequacies of earlier studies, as they were discussed in sections 2.1 to 2.7, combine with these conflicting indications to make such an investigation even more desirable. Other, related, issues also remain unresolved:

1) very little information is available on the differential effects of rule complexity (i.e. how complex the rules are which affect a given phoneme) and segment complexity (Czech /ř/ is hard for anyone to learn, including Czechs);

2) it is not very clear what does or should count as a sufficiently correct pronunciation when a teacher administers a test;

3) the degree to which different interference variants affect intelligibility is unknown;

4) it is not certain that there is any correlation between tests and normal speech; Fishman makes the following remarks: "Although performance on a perception test was not a good indicator of phonological variation as observed in speech, performance

on three perception items were (sic.) significantly related to ratings on the criterion variables. Two of these tested perception of Spanish variables. (n#V, as in [pan/paŋ]; sC, as in [gusto/guhto]) and one tested perception of an English variable (I as in [hIt/hit]). These coefficients.... ranged from .23 to .48, with the median at .43 .c.in sum, the most homogeneous scores were those derived from retrospective reports and from sociologically derived techniques. The most heterogeneous were performance scores and scores derived from the psychological and linguistic disciplines." (Fishman, pp. 876, 895)

5) The question seems not to have been asked whether there is any interesting general reason for the failure of some first-language rules (not, of course, those which could never apply to the phonetic or phonological representation of the second language) to interfere with the learning of the second language. Fishman claims, for example, that few Puerto Ricans use /l/ for /r/ or for the flap in English, even though it is used that way fairly often in Puerto Rican Spanish. (Fishman, p. 810)

3.1.1.2 STRESS AND INTONATION

So far in this paper only aspects of segmental phonology have been considered. Several problems of pedagogical and perhaps general linguistic interest, however, have to do with suprasegmental phenomena, in particular word stress, sentence stress and sentence intonation. In their report,

A Handbook of Bilingual Education (ERIC, 1970), Saville and Troike summarize those difficulties connected with suprasegmentals most likely to concern the teacher:

> Speakers of other languages find English stress and intonation patterns very difficult to master, and have particular trouble with reading because of the lack of marking in writing, which masks the distinctions of speech.
>
> The Spanish intonational system has one less degree of stress than English, different stress and rhythmical patterns, and different intonational contours. A speaker of Spanish is likely to give every syllable a nearly equal length of time, to shorten English stressed syllables, to put stress on the wrong syllable, and to fail to reduce vowels to [ə] in unstressed syllables. (p. 41)

It should also be noted that Spanish uses only three pitch levels, which are, compared to the four employed in English, closer together and neither as high nor as low at the extremes. The level of stress which is missing in Spanish is, as one might gather, the level of Ø- or reduced stress; from this it follows that Spanish does not reduce vowels to [ə]. This lack of Ø-stress seems to combine with the (compared to English) greatly diminished amount of word-internal cyclic stress assignment to prevent the kind of regular alternation between stressed and reduced syllables which is typical of English. The lack of reduction

works together with the lack of emphatic lengthening to "give every syllable a nearly equal length of time".

Since it does not seem likely that all suprasegmental differences between Spanish and English will hamper an Anglo's comprehension of Spanish-influenced English to any great extent, it would be of interest to know which ones do, and what the severity and frequency of any such misunderstandings might be. Among the putative interference phenomena with which an investigation would have to deal are the following:

1) Inability to distinguish pairs of words in English which differ primarily in terms of stress: <u>con</u>test/ con<u>test</u>, <u>per</u>vert/per<u>vert</u>.

2) The influence during learning of a stress system which generativists (Foley, Harris) claim almost totally follows the Latin stress rule on a stress system which according to Chomsky and Halle at least partially follows the Latin stress rule. Their underdeveloped concern for rules prevented taxonomists from investigating the possibility of such an influence; the area has not been researched at all, as far as I know.

3) Any additional stress confusions in Spanish-influenced English which might be caused by the dropping of consonants or the simplification of clusters (all this because the number of consonants in a syllable plays a role in stress assignment); the existence and/or importance of these confusions have not been established.

4) The impossibility in Spanish of contrastively emphasizing words or phrases by shifting stress. Because of the connection between stress and the concept of scope/ focus, this impossibility could lead to a misinterpretation of English sentences by Spanish speakers and of Spanish-influenced English sentences by Anglos.

5) The mis-match between Spanish and English intonation contours. Due to the mis-match some English pitch contours sound over-excited or exaggerated to native speakers of Spanish and some Spanish pitch contours sound annoyed or angry to native speakers of English. These differences could be the source of misunderstandings in the classroom.

6) The interaction in Puerto Rican English of Spanish stress, Spanish elision and glide-formation rules, and the simplification or dropping of final clusters (which occasionally create new opportunities for elision and glide-formation). This interaction could severely hinder comprehension on the part of someone unused to a Spanish accent. Its frequency and systematicity have not been discussed in the literature (because it is not really a problem?).

3.1.2 SOCIOLOGICAL CORRELATES OF SPEECH IN THE PUERTO RICAN COMMUNITY

The kinds of interference phenomena discussed above do not exist in isolation from the social position and attitudes of the person who exhibits them. If the social or ideological position of the speaker affects his access to English and/or his willingness to speak it, and if exposure to a language has any kind of connection with the ability to use it, then it must be expected that social dialects should arise which manifest different degrees of (Spanish-) accentedness in the pronunciation of the second language (English). And if levels of formality in a conversation or interview are understood to correspond to levels of accomodation to the style of the people whose pronunciation counts as standard, then different kinds of social dialects should be employed at different levels of formality. Given the partial merger of the normal social dialects of a language with the social dialects of accented speech*, interviews testing speech at different levels of formality should reveal the dialects of accented speech and the social position at which the non-native speaker is being integrated into society.

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* Dependent again on social position, since economically poor speakers whose native language is not English will most likely come into contact with economically poor speakers of the language they are learning.

By conducting interviews to test the stylistic variation of Mainland Puerto Rican English over five degrees of formality (list reading, text reading, list recitation, careful speech, casual speech), Fishman hoped to discover the dialects of Spanish-accented English spoken in Jersey City. During these interviews he also studied the stylistic variation of Mainland Puerto Rican Spanish. In general, his interviews showed that the major style shift occurred between reading and speaking, rather than between careful situations and casual ones. That is, the shift took place between text reading and list recitation, and not between careful speech and casual speech. Specifically, the interviews concerned themselves with vowels and consonants which might reveal the influence of Spanish, Standard English, and New York City English on Mainland Puerto Rican English.

3.1.2.1 ENGLISH

The following English sounds were investigated:

A. Vowels*

1) /ə/ or /ʌ/; variants checked: [a (?), ʌ (standard), ɔ (interference)]. [ʌ] increases with casualness, [ɔ] decreases slightly, and [a] remains stable.

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* The vowels were not differentiated as to whether they were in open or closed syllables or before voiced or voiceless consonants. That Mainland Puerto Rican English does not distinguish vowel length before voiced and voiceless consonants, (Fishman, 719) renders it unlike normal English dialects.

2) /ae/; variants: [ε^{∂}, I^{∂} (NYC), ae (standard), a (interference]; not much style shifting; [ae] generally predominant.

3) /ɔ/; variants: [o^{∂} (NYC), $ɔ^{\partial}$ (standard and interference), ɒ (upwardly mobile NYC lower and middle classes)]; [o^{∂}] predominates in spoken styles; [$ɔ^{\partial}$] decreases with casualness; [ɒ], whose use in the Puerto Rican community is unexplained, increases with casualness.

4) vowel + nasal; nasalization plus deletion of the nasal increases with casualness; in each stylistic context the amount of nasalization is almost identical with the amount of nasalization in Puerto Rican Spanish.

3.1.2.2 SPANISH

In the parallel investigation of Mainland Puerto Rican Spanish, the following variables were studied:

A. Vowels - none, except nasalized vowels (see B5 below).

B. Consonants

1) /r/; variants: [flap, l, assimilation to the following consonant, Ø]; the Ø-variant is studied only word-finally, whereas the assimilation variant is investigated only word-medially; WORD-MEDIAL: the flap decreases in frequency from reading to speaking, where it remains stable at about 25%-30%; [l] increases from list reading to list recitation (65%) and then decreases; assimilation increases with casualness and reaches a maximum of 30%. WORD FINAL: [l] hovers around 55%-60% for all styles; Ø increases with casualness, and the flap decreases slightly.

2) /s/; variants: [s (standard), h, Ø]; [h] and [Ø] are found in the coastal areas of the Caribbean; they increase with casualness and predominate in all but two or three (depending on the environment) of the most formal styles. A following consonant permits a greater use of [Ø] than does a following vowel. In addition, if the /s/ is an adjective ending (and not a noun

or verb ending), it very seldom becomes [h] before a consonant. Interestingly, /s/ does not vary sociolinguistically in Mainland Puerto Rican English, despite the very high degree of variation in Spanish (Fishman, 749)

3) /rr/; variants: [rr, hrr, ǯ* (standard), χ]; [rr, hrr, ǯ] decrease with casualness, and [χ] increases.

4) /d/; intervocalic variants: [ð (standard), Ø]; [ð] decreases and [Ø] increases with casualness. [Ø] occurs about 60% of the time in the most casual style, as compared to 0% of the time in the most formal one. Hypercorrection is common with this variable.

5) /VN#/; variants: [VN#, Vn#, V]; before vowels [n] is the Puerto Rican standard (occurs about 80% of the time) in the three speaking styles; nasalization increases with casualness to a maximum of about 15%. Before consonants [n] and nasalization are about equally common (40%) in casual styles. Instances of nasalization without deletion of the nasal were combined with instances of nasalization with deletion; this may have been misleading (Fishman, 716).

In addition to studying the cases of sociolinguistic variation listed above, Fishman compared the attitudes toward language of Puerto Rican intellectuals and workers (the former were concerned about forgetting Spanish if they were being absorbed into the Anglo community, and if not, they took Spanish for granted, as did the workers). He established that Spanish is used more at home and in the neighborhood, while English is dominant at school and work** He noted the generational differences in language use and attitudes.

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* retroflex alveolar fricative.

** Language usage at church and with priests, etc., remains unclear to me, since Fishman's data are inconclusive and occasionally contradictory.

3.1.2.3 THE CHANGING BALANCE OF ENGLISH AND SPANISH IN THE PUERTO RICAN COMMUNITY

Concerning generational differences, Fishman states that younger* speakers seemed to know and use more English and less Spanish than older ones. In some families the children used Spanish mainly to flatter their parents, ask for money, and talk about things their mother had to understand. Often the oldest children spoke Spanish fairly well, but the youngest were allowed to speak English all the time because of their poor Spanish. The following quotations are indicative of the linguistic situation and of some open linguistic questions. The open questions have generally to do with the accuracy of either standard Puerto Rican Spanish or regional standard English as partial models for the speech of young Puerto Ricans.

> "Younger speakers were also observed to use l intervocalically in place of (the flap r)..., a variation almost never utilized by native speakers." (p. 809)

> "The younger speakers use an average of 43% as many CR consonant clusters as the older speakers. This comparison was revealing for the writer. It had seemed before this that the Spanish of younger speakers was definitely simpler or 'flatter' in some way than native Spanish usually sounds. But it was clear, both on first impression and after examining the phonetic transcripts, that these speakers were able to make all the basic sounds of Spanish. Other phonotactic comparisons have

* Young means mostly high-school age in Fishman.

not yet been made between older and younger or Spanish-primary and English-primary speakers, but in the light of the findings above, it seems that such an investigation would be worthwhile." (p. 812)

"There is some indication...that whatever its dialect origin or social definition in Puerto Rico, this tendency toward zero realization affords certain conveniences to younger Puerto Ricans learning Spanish in the New York area. The fact that apocope exists as a version or stratum of an actual Puerto Rican speech group provides the justification for young speakers to simplify generally in their own adaptation of Puerto Rican Spanish. We are led to believe, therefore, that by virtue of its very demographic heterogeneity, Q_3 (a group of not all young Puerto Ricans which Fishman arrived at by Q-group analysis) is the group representing New York Spanish and the dialect that gives rise to it. We could alternatively describe Q_3 as the group of linguistic instability or flux, the group that refers least to any standard of (sic; or?) formal langue. Since this lack of standard reference represents the state of the Spanish language in New York, we might by extension say that Q_3 stands at the point of change for Spanish as a New York City language, other influences (such as educational mobility or cultural revival) remaining equal. (p. 793)

3.1.2.4 SOCIOLOGICAL SURVEYS

As has been noted several times, Fishman was concerned with the accuracy and usefulness of survey methods as well as with the analysis of the neighborhood he studied. As a conclusion to this paper's sketch of sociolinguistic data on Mainland Puerto Rican English and Spanish, I would like to quote from Fishman's opinion of his own survey and his recommendations for future sociolinguistic work:

"Let us suppose, further, that the larger survey would be conducted in order to describe Puerto Rican bilinguals with respect to the same criteria employed in Jersey City: bilingual accentedness, bilingual reading, English repertoire range, and Spanish repertoire range. If we wished to combine maximum prediction of all four criteria, with a maximum of interviewing time, we would select the following items or tasks: 1) the three census items asking which language is spoken, written and read at home; 2) the eight census items asking for the ratings in Spanish proficiency and usage in terms of reading and writing skills; 3) one item asking how much Spanish is used with older, bilingual Puerto Rican women in the neighborhood; 4) a task requiring the respondent to name, within a one-minute period, as many different English words as possible that identify objects seen or found in a church; 5) a task requiring the respondent to listen to a brief, taped bilingual conversation and to comment on the appropriateness of the language chosen for the particular purposes of the conversation; and 6) a rating (by the census taker on the spot or later by a phonetic transcriber if the interview is tape recorded) of the frequency with which the English variant aI is used during the interview. Item 1) alone would be used to predict accent. Items 1) and 3) would be used to predict reading. English repertoire range would also be predicted by item 1) to which would be added item 4). Finally, Spanish repertoire range would be predicted by items 2), 5), and 6). (p. 899)

"The four aspects of societally relevant sociolinguistic description that still seem to require most attention in the immediate future are: 1) role repertoire range measurement and description - to which we paid little attention in terms of instrument construction or general methodological-theoretical clarification, 2) perfection of field methods for inter-language measures developed in the current project, 3) direct applications of sociolinguistic description to pedagogically relevant concerns--of which we were aware but to which we could not give

> explicit attention, and 4) encompassing description of a full range speech community rather than of a delimited neighborhood. A model study of the latter kind is particularly needed now that sociolinguistic surveys of entire countries or regions are coming into fashion." (p. 1047)

3.2 LEXICON AND MORPHOLOGY

In contrast to the variety and volume of the work on the phonological and phonologically oriented sociolinguistic aspects of bilingualism and second language learning, the material available on the learning and use of vocabulary and morphology (apart from verb and noun inflection) is limited and underdeveloped. This may be due to the lesser systematicity of this area (in contrast to phonology) and the lower frequency with which even systematic phenomena occur in normal speech.

3.2.1 POTENTIAL PROBLEMS

If a study were carried out, the following kinds of things could be considered:

> 1) the assignment (in the two languages of different values of the feature MASS/COUNT to words with otherwise very similar meanings; despite the lack of systematicity in the lexicon, the development of graded lists of such words might be worth the effort, since success in many language-based intelligence tests is influenced by the (lack of) knowledge of which nouns are MASS and which COUNT.

2) differing taboo-words in the two languages, and even differences among Spanish dialects in this area.

3) misleading cognates.

4) morphological rules in Spanish and English which change verbs into nouns, nouns into adjectives, etc.; i.e., rules that change word-class membership. More systematic data might be gatherable for this area than for the predominantly lexical problems 1), 2), and 3). The source of difficulty would in this case be that Spanish has freer word-class-changing rules than English.

3.2.2 TEACHING (ENGLISH) VOCABULARY

One study of the English spoken by Puerto Ricans in New York City has some bearing on the place of lexical problems in any curriculum we develop. Morrison (The Puerto Rican Study) reports the results of tests which were intended to indicate which methods of teaching English to Puerto Rican pupils might work best. The measure of effectiveness was the amount of improvement over an eight-month period of time in the scores of the following tests: The Puerto Rican Study Test of Ability to Understand Spoken English (the USE test); The Puerto Rican Study Scale for Rating Pupil's Ability to Speak English, an informal writing test; and the Gates Reading Tests. Groups of pupils from the fourth and seventh grades were tested both before and after going through specially designed courses which each emphasized a different method of teaching English: the "Vocabulary Variant", with stress on

single words; the "Structural Variant", with stress on syntactic patterns; the "Experiential Variant", with stress on using the situation in the classroom to elicit English speech and to make grammatical and lexical points about it.

None of the methods appreciably affected the ability of either the fourth- or seventh-grade pupils to read (some of the seventh-graders actually lost ground slightly). All variants led to greatly improved scores on the USE Test in the fourth-grade classes; the gains on the USE Test were much smaller (for all variants) in the seventh grade, with the experiential method being the most effective. In the fourth grade all methods led to an improvement in the writing scores; the structural variant helped most, followed by the experiential variant. But in the seventh grade the vocabulary variant improved writing scores the most, with the structural variant a close second and the experiential variant a distant third. In both the fourth and seventh grades none of the variants improved the (tested) ability to speak English by great amounts. There is little difference between the variants in the fourth grade, but in the seventh grade the vocabulary variant has a slight (statistically significant) advantage over the experiential variant, the structural variant landing in between, somewhat closer to the vocabulary variant. Perhaps these apparent

age-determined differences in the effectiveness of the teaching methods reflects typical maturational changes: I would not be surprised if there were data which indicated that around and after puberty (seventh-graders are normally 12-13 years old) people make more improvement in their vocabulary and in school subjects highly related to vocabulary ability (e.g. writing) than they do in their basic syntax. If this is so, it should be pointed out to teachers of Puerto Ricans, so that they could gradually increase emphasis on vocabulary over the years, after beginning with stress on the structural and experiential variants.

Morrison lists some curriculum-oriented conclusions form the data just sketched on pages 43 and 44 of The Puerto Rican Study; two of the most interesting are quoted below:

> "Analysis of spoken English of pupils who had had consistent practice in language patterns revealed greater accuracy in the production of sounds, rhythm and intonation than was achieved by pupils taught through emphasis on either the vocabulary or experiential variant." (p.43)
>
> "Pupils exposed to the experiential variant spoke, on the whole, with greated fluency but did not acquire the degree of accuracy achieved by pupils taught with chief emphasis on either vocabulary or language pattern." (p. 43)

3.3 SYNTAX

The following syntactic interference phenomena seem to be in the consciousness of teachers, since Saville and Troike warn readers about them:

> 1) word order (for example the presence of adjectives and adverbs between the verbs and the following noun);
>
> 2) differences in the article systems of English and Spanish (deletion in Spanish of indefinite articles before non-referential, predicate nouns; the wider use in Spanish of explicit definite articles in titles, set phrases, and generic noun phrases);
>
> 3) differences in the use of apparently identical prepositions.

To these could be added the following:

> 4) different systems of verb phrase complementation;
>
> 5) fewer possibilities in Spanish for reducing relative clauses;
>
> 6) the omission of the subject in many Spanish sentences;
>
> 7) NEG-Absorption (i.e., non-logical double negation: He didn't do nothing - meaning He didn't do anything) in Spanish; this makes it perhaps even easier for Puerto Rican English to be identified with or influenced by Black English;
>
> 8) the supposed impossibility of logical double negation in Spanish;*

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* According to Rivero, Maria Luisa, "A Surface Structure Constraint on Negation in Spanish, Language, 46 (1970) pp. 640-66. This could, it seems to me, be due to NEG-Absorption plus the impossibility of shifting stress for emphasis.

9) differences in the systems of tense and aspect;

10) phonological identity of the possessive pronouns (su) which refer to third-person nouns and to usted;

11) the invariant form of the reflexive in Spanish;

12) greater freedom in Spanish to delete head nouns and to use adjectives alone;

13) the existence of DO-Support in English;

14) an inversion rule in Spanish that moves all the verbs rather than the first AUX, as in English.

Little data about syntactic interference exist beyond lists which either assert or hypothesize that the above-mentioned and other similar differences between Spanish and English cause problems in language learning. Because of this it would be worthwhile to find out which interference phenomena really cause trouble for teachers and students, and what the interconnections (if any) are among them.